# Hanford Advisory Board

## Proactive Single Shell Tank Leak Mitigation

## Potential Advice
## March 2022

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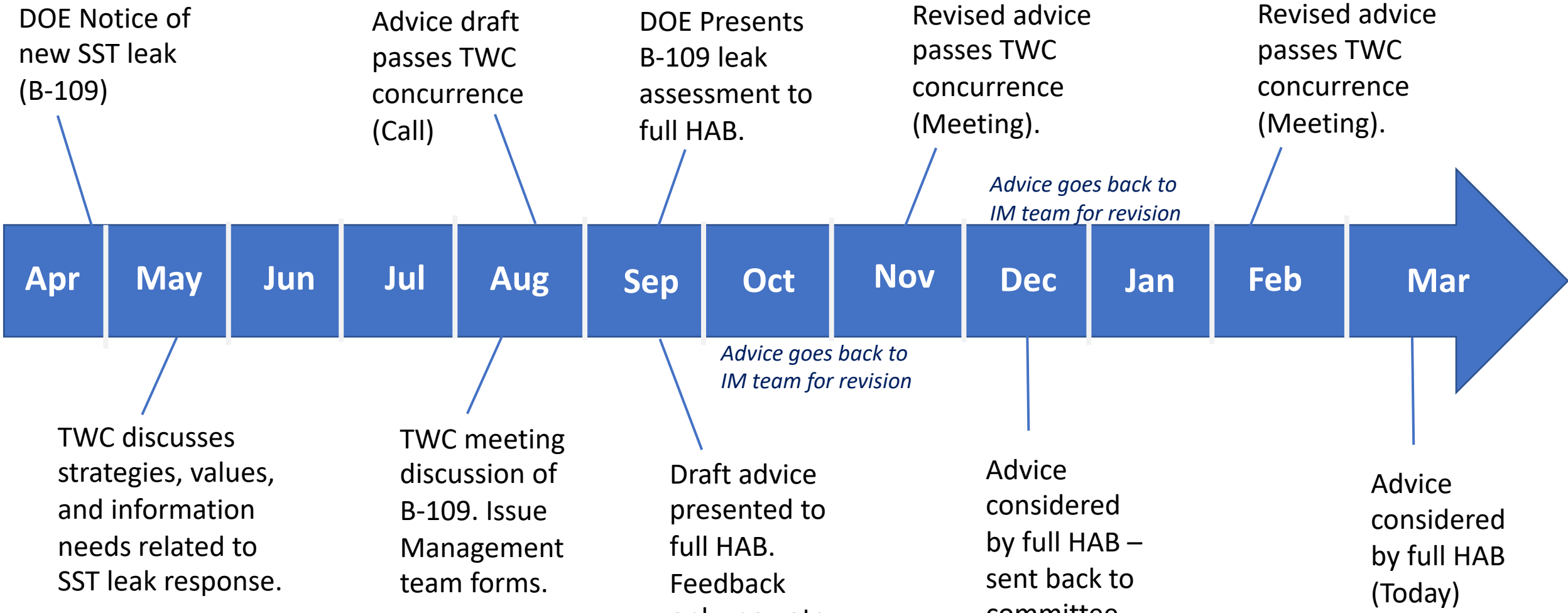
# Timeline of Advice Development



# Main Points of the Proposed Advice:

1. Remove leakable liquids from leaking tanks as quickly as feasible.
2. Create a Leak Response Plan for the SSTs (with stakeholder input)
3. Feasibility Assessment for B-109 leak response. Consider all potential options and seek public input.
4. Invest in R&D to increase agility to respond to future SST leaks.
5. Check the soil around tanks sooner in leak assessment processes.
6. Include Ecology and other non-DOE/contractors in the leak assessment process.
7. Explore options to build retrieval infrastructure quicker/earlier.

# Main Points of the Revised Advice:

1. Value: Assess, abate, and respond to SST leaks to the extent feasible.
2. Invest in/support new tools and tests for proactive leak abatement.
3. Feasibility Assessment for B-109 leak response and future SST leaks.
4. Develop a formal SST leak mitigation plan and include stakeholders.
5. Develop greater agility via a program to abate leaks in the budget.
6. Check the soil around tanks sooner in leak assessment processes.
7. Include Ecology and others in the leak assessment process.
8. Conduct a supplemental risk assessment to evaluate cumulative impact if all remaining SST liquids leak before they can be retrieved.

# Main Points of the 2nd Revised Advice:

1. Board believes: agencies should remove liquid waste, including interstitial liquid, ASAP before they have a chance to leak.
2. Develop a comprehensive plan to address SST leak detection, characterization, mitigation, cleanup, and communication.
   a) Include external input
   b) Timely assessment and communication of SST leaks, including **long-term risk**.
   c) Evaluate risk from remaining 3.34 million gallons of drainable liquid in SSTs.
   d) Board advised policy: Respond to SST leaks through abatement or mitigation, to the extent necessary and feasible, without delay. Afford public comment. Board sees value in having a dedicated team equipped and trained for this purpose.
   e) Assess the feasibility of current and potential future abatement technologies (considering effectiveness, implementability, and cost)
   f) Develop abatement technologies (invest in/support new tools)
   g) Allocate budget for managing SST leaks proactively

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# Waste Tank Summary Report for Month Ending January 31, 2022

**Table 4-1. Inventory and Status by Tanks – Single-Shell Tanks (6 pages)**

All volume data obtained from Tank Waste Information Network System (TWINS)

| Tank (241-) | Tank Integrity | Table 1-1 Tank Status | Total Waste (kgal)[a] | Drainable Interstitial Liquid (kgal)[108] | Waste Volumes[26] | | | Solids Volume Update[89] |
|---|---|---|---|---|---|---|---|---|
| | | | | | Supernatant Liquid (kgal) | Sludge (kgal) | Saltcake (kgal) | |
| **A Farm Status** | | | | | | | | |
| A-101[27] | Sound | | 351 | 37 | 5 | 3 | 343 | 8/1/2020 |
| A-102 | Sound | WI | 41 | 5.7 | 2 | 1 | 38 | 3/1/2016 |
| A-103[28] | Sound | | 390 | 87 | 12 | 2 | 376 | 10/1/2020 |
| A-104 | Assumed leaker | | 28 | 0 | 0 | 28 | 0 | 4/1/2019 |
| A-105 | Assumed leaker | | 20 | 0 | 0 | 20 | 0 | 4/1/2020 |
| A-106 | Sound | | 79 | 0 | 0 | 50 | 29 | 4/1/2016 |
| **6 tanks – Total** | | | **909** | | **19** | **104** | **786** | |
| **AX Farm Status** | | | | | | | | |
| AX-101 | Sound | | 323 | 43 | 0 | 2 | 321 | 6/1/2020 |
| AX-102 | Sound | RC | 2.9 | Retrieval completed 9/13/2021[5] | | | | 9/1/2021 |
| AX-103 | Sound | R | 25 | Retrieval in Progress | | | | 1/27/2022 |
| AX-104 | Sound | R | 5.1 | Retrieval in Progress | | | | 9/1/2021 |
| **4 tanks – Total** | | | **356** | | **16** | **14** | **326** | |
| **B Farm Status** | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **B Farm Status** | | | | | |
| B-101 | Assumed leaker | | 105 | 18 | 0 |
| B-102 | Sound | | 31 | 5.7 | 4 |
| B-103 | Assumed leaker | WI | 38 | 8.3 | 1 |
| B-104 | Sound | | 368 | 58 | 5 |
| B-105 | Assumed leaker | | 289 | 18 | 0 |
| B-106 | Sound | | 113 | 12 | 4 |
| B-107 | Assumed leaker | | 157 | 20 | 1 |
| B-108 | Sound | | 85 | 15 | 0 |
| B-109 | Assumed leaker | AL | 130 | 13 | 0 |
| B-110 | Assumed leaker | | 244 | 33 | 7 |
| B-111 | Assumed leaker | | 220 | 29 | 5 |
| B-112 | Assumed leaker | WI | 34 | 4.2 | 3 |
| B-201 | Assumed leaker | WI | 30 | 4.2 | 2 |
| B-202 | Sound | WI | 29 | 4.1 | 2 |
| B-203 | Assumed leaker | | 50 | 7.7 | 1 |
| B-204 | Assumed leaker | | 50 | 7.6 | 2 |
| **16 tanks – Total** | | | **1,973** | | **37** |

**Total Drainable Liquid across all SSTs:**
**3.37 million gallons**